**HW problems: p. 129 #1, 3, 8, 10, 12, 18, 26, 38, 40**

1) (a) median = 72 oz. IQR = 40 oz.

(b) median = 4.5 lb. (from new median) IQR = 2.5 lb.

3) (a) skewed right. mean > median

(b) between $350 & $950

(c) (+$50)- changes centers (d) x 1.10 (changes all)

Min = $350 Min = $330

Mean = $750 Mean = $770

Median = $550 Median = $550

Range = $1200 Range = $1320

IQR = $600 IQR = $660

Q1 = $400 Q1 = $385

SD = $400 SD = $440

8) The boy is 1.88 standard deviations BELOW the average height of American children his age.

10) mean = 100 SD = 16

2.5 = X -- 100 X = 140 points

16

12) French: Math:

Z = 82 -- 72 Z = 86 -- 68

8 12

Z = 1.25 std. dev's Z = 1.5 std. dev's

Did better on math because it was more standard deviations above the average score in the class.

18) (a) under speed limit = under 20 mph

Z = 20 -- 23.84 Z = -1.079 std. dev's

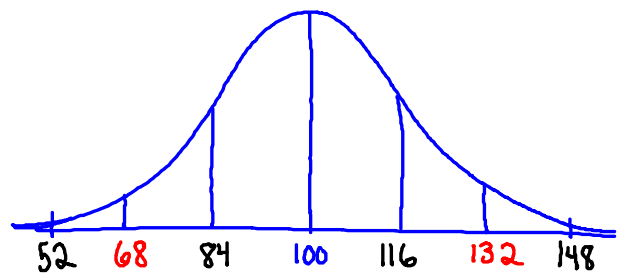
3.56

(b) 34 mph Z = 2.85

10 mph Z = -3.89

10 mph is more unusual- more std. dev's below the mean

26) N(100, 16)

(a) 

(b) (68, 132) points

(c) P(X > 116) = 16% (or 15.87% if you used normalcdf on the calculator)

(d) P(68 < X < 84) = 13.5% (or 13.59% if you used normalcdf on the calculator)

(e) P(X > 132) = 2.5% (or 2.28% if you used normalcdf on the calculator)

38) N(100, 16)

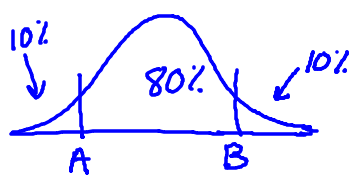
(a) P(X > 80) = normalcdf(80, E99, 100, 16) = 0.8944

(b) P(X < 90) = normalcdf(-E99, 90, 100, 16) = 0.266

(c) P(112 < X < 132) = normalcdf(112, 132, 100, 16) = 0.2039

40) N(100, 16)

1. P(X > A) = 0.05 invnorm(0.95, 100, 16) A = 126.32 pts
2. P(X < A) = 0.30 invnorm(0.30, 100, 16) A = 91.61 pts
3. Middle 80%:



P(X < A) = 0.10 invnorm(0.10, 100, 16) A = 79.50 pts

P(X < B) = 0.90 invnorm(0.90, 100, 16) A = 120.50 pts